UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,558	06/25/2003	George Calcev	CML01204M	5465

22917   7590   10/10/2007
MOTOROLA, INC.
1303 EAST ALGONQUIN ROAD
IL01/3RD
SCHAUMBURG, IL 60196

EXAMINER
SOL, ANTHONY M

ART UNIT	PAPER NUMBER
2619	

NOTIFICATION DATE	DELIVERY MODE
10/10/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.Schaumburg@motorola.com
APT099@motorola.com

	Application No.	Applicant(s)
Office Action Summary	10/603,558	CALCEV ET AL.
	Examiner	Art Unit	
	Anthony Sol	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,9,10 and 13-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9,10 and 13-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 7/25/2007 is acknowledged.

- Claims 1, 4, 6, 10, 14, 15, 16, 17, and 18 have been amended.

- Claims 7, 8, 11, and 12 have been canceled.

- Claims 1-6, 9, 10, and 13-18 are pending.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under
section 122(b), by another filed in the United States before the invention by the
applicant for patent or (2) a patent granted on an application for patent by
another filed in the United States before the invention by the applicant for patent,
except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application
filed in the United States only if the international application designated the
United States and was published under Article 21(2) of such treaty in the English
language.

2.   Claims 6-8, 10, 11, 17 and 18 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent No. 6,704,293 B1 ("Larsson").

Regarding claims 6,

Larsson discloses receiving a route-discovery message from a first node,

wherein the first node is part of an underlay communication system (col. 6, lines 18-19,

request for route message is received by a neighbor node; col. 1, lines 36-45,

*Bluetooth is an exemplary **ad-hoc** networking technology; col. 5, lines 45-46, the*

*present invention is described as a route discovery technique for use in a **Bluetooth***

scatternet). Note that since the underlay communication system disclosed in the

instant application is exemplified by an ad-hoc network, the ad-hoc network as

disclosed by Larsson meets the limitation of the claimed underlay communication

system.

Larsson further discloses receiving a route-discovery message from a second

node, wherein the second node is part of an underlay communication system (col. 6,

line 28, *a message it has already broadcast; col. 6, lines 58-59, If the piggybacked data*

indicates that the node is the destination node; col. 1, lines 36-45, ***Bluetooth*** *is an*

*exemplary **ad-hoc** networking technology; col. 5, lines 45-46, the present invention is*

*described as a route discovery technique for use in a **Bluetooth** scatternet).* Note that

since the underlay communication system disclosed in the instant application is

exemplified by an ad-hoc network, the ad-hoc network as disclosed by Larsson meets

the limitation of the claimed underlay communication system.

Larsson still further discloses determining route information based on the route-

discovery messages (col. 6, lines 58-61, *the node will piggyback a reply message in the*

route response message).

Larsson still further discloses transmitting the route information through an

overlay communication system to the first node (col. 6, lines 62-63, *the node will send*

the route response to the next node; col. 7, lines 1-5, If the node is the source

node...the node activates the route; col. 7, lines 26-29, *Since the IP protocol layer*

assumes that there is a shared network, the network adaptation layer emulates a

shared network, i.e., a broadcast network). Note that the network adaptation layer

meets the limitation of an overlay communication system as claimed.

3.   Regarding claims 7 and 11,

Larsson discloses that the IP protocol layer assumes that there is a shared

network, i.e., a broadcast network (col. 7, lines 26-29).

4.   Regarding claim 8,

Larsson discloses a Bluetooth scatternet (col. 7, lines 16-17).

5.   Regarding claims 10 and 18,

Larsson discloses receiving, at a base station in an overlay communication

system, a message from a first node in an underlay communication system, the

message indicating a need to discover a route to a second node (col. 6, lines 18-19,

request for route message is received by a neighbor node; col. 7, lines 16-17, *a*

Bluetooth scatternet; col. 7, lines 26-29, *Since the IP protocol layer assumes that there*

is a shared network, the network adaptation layer emulates a shared network, i.e., a

broadcast network). Note that the network adaptation layer meets the limitation of an

overlay communication system as claimed and thus any node with a network adaptation

layer qualifies as a base station as claimed.

Larsson further discloses broadcasting by the base station a message to nodes within the underlay communication system, the message instructing the nodes to monitor for flood messages from the first and the second nodes (col. 6, *the request for route message is received by a neighbor node...Each node has a broadcast buffer which stores the source address and broadcast identifier pair. The broadcast buffer also stores the time which the message bas been received to determine if the node has processed the broadcast message within a predetermined time. As one skilled in the art will recognize the predetermined time period is set long enough that the node will not rebroadcast a message it has already broadcast*).

Larsson still further discloses receiving by a base station a message from a third node in an underlay communication system, the message comprising route information (col. 7, lines 1-2; *the node sends the route response message to the next node*).

Larsson still further discloses transmitting by the base station, the route information to the first node (col. 7, lines 2-5, *If the node is the source node...the node activates the route*).

6.   Regarding claim 17,

Larsson discloses means for receiving a route-discovery message from a first node, wherein the first node is part of an underlay communication system (col. 6, lines 18-19, *request for route message is received by a neighbor node;. col. 1, lines 36-45, **Bluetooth** is an exemplary **ad-hoc** networking technology; col. 5, lines 45-46, the present invention is described as a route discovery technique for use in a **Bluetooth***

scatternet). Note that since the underlay communication system disclosed in the instant application is exemplified by an ad-hoc network, the ad-hoc network as disclosed by Larsson meets the limitation of the claimed underlay communication system.

Larsson further discloses means for receiving a route-discovery message from a second node, wherein the second node is part of the underlay communication system (col. 7, lines 1-2; *the node sends the route response message to the next node; col. 1, lines 36-45,* **Bluetooth** *is an exemplary* **ad-hoc** *networking technology; col. 5, lines 45-46, the present invention is described as a route discovery technique for use in a* **Bluetooth** *scatternet*). Note that since the underlay communication system disclosed in the instant application is exemplified by an ad-hoc network, the ad-hoc network as disclosed by Larsson meets the limitation of the claimed underlay communication system.

Larsson still further discloses means for determining route information based on the route-discovery messages (col. 6, lines 58-61, *the node will piggyback a reply message in the route response message*)..

Larsson still further discloses means for transmitting through an overlay communication system the route information to the first and the second nodes (col. 6, lines 62-63, *the node will send the route response to the next node;* col. 7, lines 1-5, *If the node is the source node...the node activates the route;* col. 7, lines 26-29, *Since the IP protocol layer assumes that there is a shared network, the network adaptation layer emulates a shared network, i.e., a broadcast network*). Note that the network

adaptation layer meets the limitation of an overlay communication system as claimed).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-5, 9, 12-13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 6,704,293 B1 ("Larsson") in view of U.S. Patent No.

6,304,556 B1 ("Haas").

Regarding claims 1, 4, 15 and16,

Larsson discloses determining that a first node needs to communicate with a

second node, wherein the first and the second nodes are part of an underlay ad-hoc

communication system (col. 5, lines 42-44, *broadcast messages for which a source*

node expects a reply message can also be used to support route discovery; col. 6, lines

58-63, *If the piggy backed data indicates that the node is the destination node... the*

node will piggyback a reply message; col. 1, lines 36-45, ***Bluetooth*** *is an exemplary **ad-***

hoc *networking technology;* col. 5, lines 45-46, *the present invention is described as a*

*route discovery technique for use in a **Bluetooth** scatternet*).

Larson further discloses sending, by the first node, a message to an overlay communication system notifying the overlay communication system of the need to communicate with the second node (col. 7, lines 26-29, *Since the IP protocol layer assumes that there is a shared network, the network adaptation layer emulates a shared network, i.e., a broadcast network*). Note that the network adaptation layer meets the limitation of an overlay communication system as claimed.

Larsson still further discloses broadcasting the route discovery message within the underlay communication system (col. 5, lines 42-44, *broadcast messages for which a source node expects a reply message can also be used to support route discovery*).

Larsson still further discloses receiving by the first node route information (col. 7, lines 2-5, *If the node is the source node, in accordance with the "Yes" path out of decision step 665, the node activates the route in accordance with step 680*).

Larsson does not disclose receiving by the first node, from the overlay communication system, instructions to broadcast a route-discovery message.

Haas discloses a cellular communication system (claimed overlay communication system) where the reactive procedure during the route discovery is limited to sending of route location queries to those nodes that are located on the periphery of routing zone (claimed receiving instructions to broadcast a route-discovery message)(col. 5, lines 19-22).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the route-discovery method of Larsson so that

a limited global search is initiated as taught by Haas. One skilled in the art would have

been motivated to make the combination so that a limited cost of global search is

realized (Haas, col. 3, lines 53-56).

9.   Regarding claims 2, 5, 9 and 12,

Larsson does not disclose sending the message to a cellular

communication system.

Haas discloses sending a paging message in a cellular system (col. 4, lines 15-

36).

It would have been *prima facie* obvious to one of ordinary skill in the art at the

time of the invention was made to modify the route-discovery method of Larsson to be

used in a cellular network as taught by Haas. One skilled in the art would have been

motivated to make the combination since IP protocol layer assumes that there is a

shared network (Larsson, col. 7, lines 26-27).

10.   Regarding claims 3 and 13,

Larsson discloses Bluetooth units that can implement IP (col. 7,lines 21-22).

Larsson further discloses that if the node is not the destination node, the node replaces

its address in the request for route message (col. 6, lines 45-50).

11.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Larsson in view of U.S. Patent No. 6,810,428 B1 ("Larsen").

Regarding claims 14,

Larsson does not disclose transmitting by a base station, a flood stop message

causing nodes within the underlay communication system to cease transmission of

flood messages.

Larsen discloses an ETE (end-to-end acknowledgement) message to stop the

flooding message (col. 14, lines 47-62).

It would have been *prima facie* obvious to one of ordinary skill in the art at the

time of the invention was made to modify the route-discovery method of Larsson to use

an ETE message as taught by Larsen. One skilled in the art would have been

motivated to make the combination since the Chaser message reached the destination

(Larsen, col. 14, lines 47-51).

Response to Arguments

12.   Applicant's arguments filed 7/25/2007 have been fully considered but they are

not persuasive.

- The Applicant argues beginning on page 7 that Larsson does not disclose underlay and overlay communication systems as claimed by the independent claims 1, 4, 6, 10, 15, 16, 17, and 18.

- The Examiner respectfully disagrees. The underlay communication system disclosed in the instant application is exemplified by an ad-hoc network. Similarly, the ad-hoc network as disclosed by Larsson meets the limitation of the claimed underlay communication system (see col. 1, lines 36-45 and col. *5, lines 45-46)*. As for the overlay communication system, Larsson discloses that since the IP protocol layer assumes that there is a shared network, the network adaptation layer emulates a shared network, i.e., a broadcast network. Thus, this shared network, emulated by the adaptation layer, meets the limitation of an overlay communication system as claimed.

Conclusion

13.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/1/07

WING CHAN
SUPERVISORY PATENT EXAMINER

AMS

10/1/2007